

Properties:

Allow us to rewrite expressions in an equivalent form.

Distributive Property

Deliver multiplication to all parts inside the parentheses.

Examples: $-5(4 - 2) = -5 \cdot 4 - -5 \cdot 2$

$8(20 - 1) = 8 \cdot 20 - 8 \cdot 1$

expanded form

Commutative Property of multiplication and addition:

Changing the order of addends or factors in a number sentence does not change the outcome.

Example: $3.5 + 2 + 0.5 = 3.5 + 0.5 + 2$

$$4 + 8 + 6 = 6 + 8 + 4$$

Associative Property of multiplication and addition:

Changing how addends or factors are grouped in a number sentence does not change the outcome.

Example: $(-4 \cdot 2) \cdot 3 = -4 \cdot (2 \cdot 3)$

$$(2 + 5) + 1 = 2 + (5 + 1)$$